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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/342,742	06/29/1999	SHANKAR NATARAJAN	CISCP111/107	7044

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EXAMINER

LEVITAN, DMITRY

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 06/27/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/342,742

Applicant(s)

NATARAJAN ET AL.

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6, 10-19 and 40-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-19, 40-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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Amendment filed on May 27, 2003 has been entered. Claims 1-6, 10-19, 40-53 remain pending.

### *Specification*

The objections to the specification are withdrawn in view of Applicant's amendment.

### *Claim Rejections - 35 USC § 103*

1. Claims 1-6, 10-18, 40-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (US 6,108,304) in view of Hanson (US 5,633,861).

Abe teaches most of claims 1-6, 12, 14, 40-53 limitations:

of method, system and computer program for providing dynamic feedback control of network elements in a data network (edge nodes EA, EB, EC, ED and network management equipment 200 on Fig. 1 and col. 4 lines 63-68; col. 5 lines 1-17), the data network including a plurality of network elements (EA, EB, EC, ED on Fig. 1), each of said elements having a plurality operating parameters associated therewith (bandwidth, buffer status information on col. 10 lines 23-45), said operating parameters being related to at least one control parameter (calculated available bandwidth col. 7 lines 32-60) of said element, said element comprising:

receiving information (measured bandwidth col. 6 lines 5-19) relating to an operation of a first subset (edge nodes on Fig.1) of the plurality of network elements;

providing at least portion of said received information (measured bandwidth) to at least one analysis entity (network management equipment 200 on Fig. 1 and col. 6 lines 8-19) for analyzing said portion of received data and calculating updated control information (available bandwidth col. 6 lines 8-19) based on such analysis;

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receiving the updated control information calculated by the analysis entity (col. 7 lines 51-60);

and

providing the updated control information to at least one of the network elements (col. 7 lines 51-60).

Regarding claims 40 and 47, Abe teaches processors with memory (col. 5 lines 42-58) and computer program to implement the method (flowchart Fig. 21 and col. 7 lines 32-60).

Regarding claims 10,11, 15-18, Abe teaches a second subset of the plurality of ATM or Frame Relay (col. 5 lines 14-17) network elements (relay nodes N1, N2 and N3 on Fig. 1) controlled by the same network management equipment 200, receiving control data in response of data congestion of the first network elements (edge nodes on Fig. 1) as shown on Fig. 15 and 23 (col. 8 lines 5-40).

Regarding claim 13, Abe teaches the method with periodically updating receive (monitor RM cells col. 10 lines 63-68 and col. 11 lines 1-15) information on available bandwidth.

Abe does not teach control information that specifies a limit on the operation, excess information rate value and committed burst size value of a network element.

Hanson teaches control information that specifies a limit on the operation, excess information rate value and committed burst size value of a network element (channel utilization factor CUF on Fig. 6 and col. 5 lines 63-67, col. 6 lines 1-8, col. 7 lines 65-67, col. 8 lines 1-67).

It would be obvious to one of ordinary skills in the art at the time the invention was made to add control information that specifies a limit on the operation, excess information rate value and

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committed burst size value of a network element of Hanson to the system of Abe to improve the system handling different customers requirements.

2. Claim 19 is rejected under 35 U.S.C. as being unpatentable over Abe in view of Hanson in further view of Desai (US 5,781,703).

Abe and Hanson teach all claim limitations specified in claim 1. Abe and Hanson do not teach using plurality of network controllers. Desai teaches multiple network controllers (data servers 14 on Fig. 1 and col. 3 lines 2-30). It would be obvious to one of ordinary skills in the art at the time the invention was made to use multiple controllers, as suggested by Desai to the method of Abe and Hanson to improve reliability of the method.

### ***Response to Arguments***

3. Applicant's arguments filed May 27 2003 have been fully considered but they are not persuasive.

On page 4 of the Response, Applicant argues that Abe does not teach dynamic update of the limit for NE operation.

Examiner respectfully disagrees.

Abe teaches calculating and assigning available bandwidth for each NE based on the dynamically changing bandwidth (Abe 6:5-19) and Hansen teaches specifying a limit on the operation (Hanson 7:65-67 and 8:1-67).

On page 5 of the Response, Applicant argues that Abe does not teach providing a portion of the received information that specifies the limit of the operation to analyzing entity for

analyzing the portion of received data and calculating updated control information based on such analysis.

Examiner respectfully disagrees.

Abe does teach providing a portion of the received information to analyzing entity for analyzing the portion of received data and calculating updated control information based on such analysis (Abe 6:8-19, 7:51-60) and Hansen teaches specifying a limit on the operation (Hanson 7:65-67 and 8:1-67).

On page 5 of the Response, Applicant argues that Hansen does not teach specifying a limit on the operation.

Examiner respectfully disagrees.

Hansen teaches specifying a limit on the operation, limiting Submission Information Rate (SIR) as a function of CUF less than or equal to Excess Information Rate (EIR) (Hanson Fig. 6, 7:65-67 and 8:1-7).

On page 6 of the Response, Applicant argues that references do not teach that updated information is CIR, EIR, bust size value and excess burst size value.

Examiner respectfully disagrees.

Hansen teaches CUF that is function of CIR, EIR, bust size value and excess burst size value (Hanson 7:65-67 and 8:1-67).

Examiner therefore believes that the cited references meet all the claims limitations and the rejection is proper.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is 703-305-4384. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

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Dmitry Levitan  
Patent Examiner.  
June 18, 2003



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